

Name _____ Date _____

Star Magnitudes

Rank	Star	Absolute Magnitude	Apparent Magnitude	Distance from Earth (light-years)
.	The Sun	+4.8	-26.72	.
1	Sirius (in Canis Major)	+1.4	-1.46	8.6
2	Canopus (in Carina)	-2.5	-0.72	74
3	Rigel Kentaurus (Alpha Centauri) (in Centaurus)	+4.4	-0.27	4.3
4	Arcturus (in Boötes)	+0.2	-0.04	34
5	Vega (in Lyra)	+0.6	0.03	25
6	Capella (in Auriga)	+0.4	+0.08	41
7	Rigel (in Orion)	-8.1	+0.12	900
8	Procyon (in Canis Minor)	2.8	+0.38	11
9	Archenar (in Eridanus)	-1.3	+0.46	75
10	Betelgeuse (in Orion)	-7.2	+0.50	1,500
11	Hadar (in Centaurus)	-4.3	+0.61	300
12	Altair (in Aquila)	+2.3	+0.77	17
13	Acrux (in Crux)	-3.8	+0.79	270
14	Aldebaran (in Taurus)	-0.2	+0.85	65
15	Antares (in Scorpius)	-4.5	+0.96	400
20	Deneb (in Cygnus)	-7.2	+1.25	1,500

Source of chart and definitions:

<http://www.enchantedlearning.com/subjects/astronomy/stars/bright.shtml>

Questions: www.middleschoolscience.com 2003

Apparent magnitude is a measure of the brightness of a celestial object as seen from Earth. The lower the number, the brighter the object.

Negative numbers indicate extreme brightness. We can see objects up to 6th magnitude without a telescope. This system of rating the brightness of celestial objects was developed by the Greek astronomer Hipparchus in 120 B.C.

Absolute magnitude is a measure of the inherent brightness of a celestial object. This scale is defined as the apparent magnitude a star would have if it were seen from a distance of 32.6 light-years. The lower the number, the brighter the object. **Negative numbers indicate extreme brightness.**

Questions: Use the chart to help you answer these:

1. What is the brightest star in the sky? _____ What is the apparent magnitude? _____ What constellation is it in? _____ How far away is it? _____ .

2. The closest star is _____ at _____ light years away.

3. The farthest star is _____ at _____ light years away.

4. Which constellation has 2 of the brightest stars in the sky? _____
Name of star _____ apparent magnitude _____ and
Name of Star _____ apparent magnitude _____.

5. What is the difference between absolute and apparent magnitude?

6. Rank these stars in order from brightest to dimmest apparent magnitude
Vega, Archenar, Aldebaran, Arcturus, Hadar, Canopus, Procyon

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